

CLAIMS

1. Transmitters for a tire condition monitoring apparatus, wherein one of the transmitters is provided in a tire located at a left side of a vehicle, and another transmitter is provided in a tire located at a right side of the vehicle, wherein each transmitter includes:

a condition detection device for detecting condition of the tire; and

an acceleration detection device for detecting a direction of acceleration due to rotation of the associated tire,

wherein, based on data representing the direction of acceleration detected by each acceleration detection device, whether the associated transmitter is located in the tire at the left side or in the tire at the right side is identified, and data representing condition of the associated tire detected by the associated condition detection device is wirelessly transmitted.

2. The transmitters according to claim 1, wherein, when the absolute value of data representing the direction of acceleration detected by the acceleration detection device of each transmitter is equal to or greater than a predetermined threshold value, whether the transmitter is located in the tire at the left side or in the tire at the right side is identified.

3. The transmitters according to claim 1, wherein the acceleration detection devices are angular acceleration sensors for detecting acceleration data based on rotation of the tires.

4. The transmitters according to claim 1, wherein each transmitter identifies whether the transmitter is

located in the tire at the left side or in the tire at the right side and stores the result of the identification.

5 5. The transmitters according to claim 1, wherein each transmitter includes:

 a trigger signal detection device for detecting a trigger signal,

 wherein, when a trigger signal is detected by the trigger signal detection devices, the transmitters
10 wirelessly transmit data representing the condition of the tires at different timings based on whether each transmitter is located in the tire at the left side or in the tire at the right side.

15 6. A tire condition monitoring apparatus for monitoring condition of a tire located at a left side of a vehicle and a tire located at a right side of the vehicle, wherein the apparatus includes transmitters each located in one of the tires, wherein each transmitter includes:

20 a condition detection device for detecting condition of the associated tire;

 an acceleration detection device for detecting a direction of acceleration due to rotation of the associated tire,

25 wherein, based on data representing the direction of acceleration detected by each acceleration detection device, whether the associated transmitter is located in the tire at the left side or in the tire at the right side is identified, and data representing condition of the
30 associated tire detected by the associated condition detection device is wirelessly transmitted,

 the tire condition monitoring apparatus further comprising:

 trigger signal transmission devices, wherein the
35 trigger signal transmission devices are located in the

vicinity of the tires to correspond to the transmitters,
wherein each transmitter includes a trigger signal
detection device,

wherein, when a trigger signal is detected by the
trigger signal detection devices, the transmitters
wirelessly transmit data representing the condition of
the tires at different timings based on whether each
transmitter is located in the tire at the left side or
in the tire at the right side;

a reception antenna for receiving data wirelessly
transmitted by the transmitters; and

a receiver for processing data received by the
reception antenna.

7. The tire condition monitoring apparatus according to
claim 6, wherein the trigger signal transmission devices are
located between the left and right front tires of the
vehicle and between the left and right rear wheels of the
vehicle, respectively, and

wherein, based on data wirelessly transmitted from the
transmitters at different timings, the receiver identifies
the position of the transmitter that is the source of
received data.

8. The tire condition monitoring apparatus according to
claim 6, wherein, when the absolute value of data
representing the direction of acceleration detected by the
acceleration detection device of each transmitter is equal
to or greater than a predetermined threshold value, whether
the transmitter is located in the tire at the left side or
in the tire at the right side is identified.

9. The tire condition monitoring apparatus according to
claim 6, wherein the acceleration detection devices are
angular acceleration sensors for detecting acceleration data

based on rotation of the tires.

10. The tire condition monitoring apparatus according
to claim 6, wherein each transmitter identifies whether the
5 transmitter is located in the tire at the left side or in
the tire at the right side and stores the result of the
identification.

11. The tire condition monitoring apparatus according
10 to claim 6, wherein the trigger signal transmission devices
periodically transmit trigger signals at different timings.